REMARKS

Applicants thank the Examiner for total consideration given the present application. Claims 12-33 were pending prior to the Office Action. Claims 13 and 24 have been cancelled and claims 34-37 have been added through this Reply. Therefore, claims 12, 14-23, and 25-37 are currently pending. Claims 12, 22, 23, 33, 34, and 36 are independent. Claims 12, 22, 23, and 33 have been amended through this Reply. Applicants respectfully request reconsideration of the rejected claims in light of the amendment and remarks presented herein, and earnestly seek timely allowance of all pending claims.

35 U.S.C. § 103 REJECTION

Claims 12-14, 16, 18, 22-25, 27, 29, and 33 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa et al. (U.S. Patent Publication No. 2003/0118345)[hereinafter "Tomizawa"]. Claims 15 and 26 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa, and further in view of Naito et al (U.S. Patent No. 5,052,051)[hereinafter "Naito"]. Claims 17 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa, and further in view of Sawada et al. (WO 03/026239)[hereinafter "Sawada"] and Tago (U.S. Patent Publication No. 2004/0165895)[hereinafter "Tago"]. Claims 19 and 30 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa, and further in view of Hayee et al. (U.S. Patent No. 7,209,671)[hereinafter "Hayee"]. Claims 20, 21, 31, and 32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa, and further in view of Tago and Hayee.

Applicants respectfully traverse these rejections.

Independent claims 12, 22, 23, and 33 have been amended to further clarify that operational circuit (claims 12 and 22) or the corresponding step (claims 23 and 33) ***sets one of the predetermined thresholds to a value, in response to corresponding predetermined logical operation, different from an optimum threshold value that is used when discriminating the optical input signals divided into the plurality of paths with a single discriminator*** and performs said predetermined logical operation with the ***set predetermined threshold value*** and discrimination results output from the discriminators. Note that some of the above-identified feature was previously recited in claims 13 or 24.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Additionally, there must be a reason why one of ordinary skill in the art would modify the reference or combine reference teachings to obtain the invention. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). There must be a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* The Supreme Court of the United States has recently held that the "teaching, suggestion, motivation test" is a valid test for obviousness, albeit one which cannot be too rigidly applied. *Id.* Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.*

In this instance, it is respectfully submitted that none of the applied prior art references, either alone or in combination, teaches or suggests the above-identified feature of claims 12, 22, 23, and 33.

The Examiner appears to rely on Tomizawa as disclosing, "the predetermined thresholds are different from an optimum threshold that is used when discriminating the optical input signals divided into the paths with a single discriminator" in rejecting claims 13 and 24. (*See page 4, second full paragraph of the final Office Action.*) More specifically, the Examiner points to paragraphs [0038]-[0039] and [0069]-[0072] as disclosing, "the predetermined thresholds are different from an optimum threshold that is used when discriminating the optical input signals divided into the paths with a single discriminator." It is respectfully submitted that the Examiner's interpretation of the relied upon sections of Tomizawa is totally erroneous.

In paragraphs [0038]-[0039], Tomizawa merely discloses how to improve the bit errors that may occur in a control circuit 4 even if the logic of this control circuit 4 is intended to obtain the decision result having the highest degree of precision. In paragraphs [0069]-[0072], although Tomizawa discloses that the threshold value of each decision circuit is set higher than a standard threshold value, nowhere does Tomizawa teach or suggest that such standard threshold value is a

value ***that is used when discriminating the optical input signals divided into the plurality of paths with a single discriminator***.

As previously submitted, Tomizawa discloses that optical signals are converted into electrical signals by a photo detector 1. These electrical signals are then distributed to ***a plurality of series by a distribution circuit 2***, and are input respectively into ***decision circuits 3-11 to 3-1n for a threshold value 1, decision circuits 3-21 to 3-2n for a threshold value 2, and decision circuits 3-k1 to 3-kn for a threshold value k***. Namely, if n number of decision circuits for the same threshold value are taken as 1 set, the electrical signals can be distributed to the decision circuits of k sets. The number of distributions is the product (i.e., nxk) of the number n of decision circuits having the same threshold value with the types k of threshold values. The decision result of each decision circuit is input into a control circuit 4, and the decision result of at least one decision circuit from each set is input into a selection circuit 5. The control circuit 4 controls the selection circuit 5 based on the decision result of each decision circuit, and selects and outputs the decision result of one decision circuit. (*See paragraph [0035] and Fig. 1.*)

At least for the foregoing, it is evident that Tomizawa cannot teach or suggest and operational circuit (claims 12 and 22) or the corresponding step (claims 23 and 33) that ***sets one of the predetermined thresholds to a value, in response to corresponding predetermined logical operation, different from an optimum threshold value that is used when discriminating the optical input signals divided into the plurality of paths with a single discriminator*** and performs said predetermined logical operation with the ***set predetermined threshold value*** and discrimination results output from the discriminators.

Therefore, for at least these reasons, independent claims 12, 22, 23, and 33 are distinguishable from Tomizawa.

Naito, Sawada, Tago, and Hayee have not been, and indeed cannot be, relied upon to fulfill the above-noted deficiency of Tomizawa.

Therefore, for at least these reasons, it is respectfully submitted that independent claims 12, 22, 23, and 33 and their corresponding dependent claims are allowable over the applied prior art references.

NEW CLAIMS

New independent claim 34 recites, *inter alia*, "a bit-error-rate monitoring unit that monitors a bit error rate of an output result of the operational circuit; and a discrimination-threshold control circuit that changes levels of the predetermined thresholds of the discriminators based on monitoring information of the bit-error-rate monitoring unit, wherein the operational circuit has a logical OR function and a logical AND function, one of which is selected based on the levels of the predetermined thresholds of the discriminators, and performs the selected logical operation." New independent claim 36 recites, *inter alia*, "a bit-error-rate monitoring unit that monitors a bit error rate of an output result of the operational circuit; and a discrimination-threshold control circuit that changes levels of the predetermined thresholds of the discriminators based on monitoring information of the bit-error-rate monitoring unit, wherein the operational circuit has a logical OR function and a logical AND function, one of which is selected based on the levels of the predetermined thresholds of the discriminators, and performs the selected logical operation." At least for the reasons stated above with respect to independent claims 12, 22, 23, and 33 it is respectfully submitted that none of the prior art of record teaches or suggests the above-identified features of claims 34 and 36. Thus, it is submitted that claims 34 and 36 are allowable over the applied prior art references. Claims 35 and 37 are at least allowable by virtue of their dependence from corresponding independent claim.

CONCLUSION

All rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claims does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Ali M. Imam Reg. No. 58,755 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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